

ELASTIC BUCKLE

Field of the Invention

The present invention relates to an elastic buckle used for portable cases or boxes
5 in the strong demand of convenience and practice for opening and closing.

Description of the Prior Art

The technical means for opening or closing a conventional box/case (ex. the portable case (1) by referring to the part of device in FIG. 1) is usually to use a formed
10 integral fastener (121) on the case lid (12), the fastener (121) has an internal slide face (1211) and depressing slide face (1213), and there forms a cutting edge (1212) with height difference between the internal slide face (1211) and depressing slide face (1213), there is also a grip rod (13) at the proper position centered on one side of the case bottom (11), the grip rod (13) respectively forms internal face (131) and bottom
15 face (132) to complete the closing of case lid (12) and case bottom (11).

However, the cutting edge (1212) is usually designed so narrow as to in case of the user slightly touching the depressing slide face (1213) by the finger as soon as making the case lid (12) not fastened, it will result in the goods inside the case (1) dropped at any time.

20 Based on the existence of the above shortcomings, it therefore has a necessity to improve the design of opening or closing the case bottom (11) and case lid (12) to prevent the goods preserved inside the portable case (1) from dropping.

Summary of the Invention

25 The first objective of the present invention is to provide an elastic buckle, the user is possible to slightly touch the elastic buckle to easily open the case lid while the

elastic buckle is completely built into the T-shaped bolt, that is to diminish the conventional buckle hard to separate from the grip rod.

The other objective of the present invention is to provide a elastic buckle, the elastic buckle is only slightly turned up by the user to make the depressing slide face
5 of the fastener completely fixed between the external clip and internal clip of the elastic buckle to have a better effect in closing the case lid and the bottom case, so it diminishes the shortcoming of the conventional box and case without easy fastening.

The present invention provides a technical means to make the user easily open the case lid and separate the fastener from the grip rod while the elastic buckle is
10 completely built into the T-shaped bolt.

Additionally, the present invention has a proper height socket on the bottom of the elastic buckle to make the user slightly turn up the elastic buckle by finger operations to fasten the fastener and the grip rod in better effect.

Comparing to the conventional product, the present invention utilizes the
15 properly adjusted elastic buckle built into the T-shaped bolt to make the opening and closing of the case lid more tight to diminish the trouble of the action between the case lid and bottom case of the conventional box and case.

Brief Description of Drawings

20 Figure 1 is an exploded view of the elastic buckle of the present invention assembled into the T-shaped bolt of the portable case and a partially enlarged view thereof;

Figure 2 is a perspective view of the present invention after assembly according to the figure 1;

25 Figure 3 is a perspective view of the fastener of the case lid and the elastic buckle of the present invention according to FIG. 2 gripping the case lid into the

bottom case (the case lid and the bottom case is closed);

Figure 4 is a cross-sectional view of the present invention according to FIG. 3 (the depressing slide face of the fastener and the flange keeps a gap, and meanwhile the sidelong part of the T-shaped bolt is built into the top side of the elastic buckle's socket);

Figure 5 is a cross-sectional view of the user touching the elastic buckle by the finger according to FIG. 4 of the present invention (using the finger to touch the external clip part of the elastic buckle to make the fastener hollow forward the bottom case to separate the cutting edge of the fastener from the internal face of the grip rod and the flange of the elastic buckle will also push the depressing slide face of the fastener to simultaneously make the case lid start to slide upward slightly);

Figure 6 is a cross-sectional view of the user slightly touching the elastic buckle by the finger according to FIG. 5 of the present invention and completely opening the case lid (the user's finger is no longer touching the external clip part of the elastic buckle and make the external clip part of the elastic buckle stand vertical);

Figure 7 is a part cross-sectional view of the user slightly turning up the elastic buckle of the present invention by the finger (the user turns up the elastic buckle by the finger to make the depressing slide face of the fastener of the portable case built into the clip space between the external clip and internal clip of the elastic buckle and to increase the tight effect of the fastener and the grip rod in advance);

Figure 8 is a part front elevation view of elastic buckle of the present invention in the status of not turning up yet; and

Figure 9 is a part front elevation view of elastic buckle of the present invention turning up to make the fastener of the portable case clipped between the internal clip and the external clip.

Description of The Preferred Embodiment

Please refer to FIG. 1. The figure shows the present invention comprising of:

An external part (21) means a vertical wide-faced clip, there is a flange (211) on one side of the top, the external part (21) in advance forms the thickness wider on the top and becomes thinner forward the bottom in order to depress from the wide face of the external part (21) with a better elasticity for the thinner bottom; the outer face of the external part (21) has additionally a concave surface (20) resembling in the finger's surface to depress by the finger with convenience.

An internal clip part (22) means a vertically wide-faced clip with lower height than the external clip part (21), there is a slant (220) inside the top and a plugging door (224) centered on the bottom of the internal clip part (22), there have sockets (223) on both sides of the plugging door (224) and thus form the first plug (221) and the second plug (222) on both sides of the socket, the relative positions of the bottoms of the first plug (221) and the second plug (222) have the protrusions (2211), (2221), therefore, the width constructed by these two protrusions (2211), (2221) is smaller than the width between the first plug (221) and the second plug (222).

A connecting part (23) is horizontal and formed integral with the bottom of the external part (21) and the bottom of the internal part (221).

FIG. 2 is the perspective view of the present invention after assembly according to the figure 1 to make the user easily open the case lid (12) and separate the fastener (121) from the grip rod (13) while the elastic buckle (2) is completely built into the T-shaped bolt (14).

Furthermore, referring to FIG. 3 and FIG. 4 and based on FIG. 2, the fastener (121) of the case lid (12) keeps a proper gap to the elastic buckle (2) during gripping the case lid (12) into the bottom case (11), meanwhile, the case lid (12) is close to the bottom case (11), and since the horizontal part (141) of the T-shaped bolt (14) is built

into the top side of the socket (223) of the elastic buckle (2), the depressing slide face (1213) of the fastener (121) keeps a gap to the flange (211) of the elastic buckle (2).

Figure 5 is the cross-sectional view of the user touching the elastic buckle by the finger according to FIG. 4 of the present invention; using the finger to touch the external clip part (21) of the elastic buckle (2) to make the fastener (121) hollow forward the bottom case (12) to separate the cutting edge (1212) of the fastener (121) from the internal face (131) of the grip rod (13) and the flange (211) of the elastic buckle (2) will also push the depressing slide face (1213) of the fastener (121) to simultaneously make the case lid (12) start to slide upward slightly.

Figure 6 is the cross-sectional view of the user slightly touching the elastic buckle by the finger according to FIG. 5 of the present invention and completely opening the case lid; the user's finger is no longer touching the external clip part (21) of the elastic buckle (2) and make the external clip part (21) of the elastic buckle (2) stand vertical.

Figure 8 shows the elastic buckle of the present invention in the status of not turning up yet, FIG. 7 and FIG. 9 shows the user turning up the elastic buckle by the finger to make the depressing slide face (1213) of the fastener (121) of the portable case (1) built into the clip space between the external clip (21) and internal clip (22) of the elastic buckle (2) along the slant (220), and simultaneously utilizes these two protrusions (2211), (2221) to clip both relative sides of the vertical part (142) of the T-shaped bolt (14) to increase the tight effect of the fastener (121) and the grip rod (13) and to avoid the drop of the elastic buckle (2) off along the T-shaped bolt (14).

The present invented apparatus at least includes the following merits:

1. The user needs only slightly touching the elastic buckle to provide the case lid the effect of easy "opening".
2. The user needs only slightly turning up the elastic buckle to provide a better tight

effect for buckling the fastener and gripping rod of the case lid.

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